

## Outline

- 1 Introduction
- 2 IaDs and Discourse Structure
- 3 Non-Representational Analysis

## Re-conjoining Imperatives and Declaratives

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September 6th, 2016

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## Conjoined Imperatives and Declaratives

What are They?

## Imperative and Declarative (IaD)

*Context: We've arrived home in New Mexico, are desperate for local food, but restaurants are closed.*

- (1) Make tortillas and I'll use them to make enchiladas.
  - My interest: combines representational and non-representational meaning with 'logical' connective
  - Is compositional analysis possible?

(Dummett 1973; Bolinger 1979; van der Auwera 1986; Clark 1993; Lascarides & Asher 2003; Txurruka 2003; Franke 2005; Russell 2007; Asher 2007; Franke 2008; Scontras & Gibson 2011; Kaufmann 2012; von Stechow & Iatridou 2017, a.o.)

## Conjoined Imperatives and Declaratives

Standard Characterization in Literature

## Endorsed Imperative and Declarative (e-IaD)

*Context: We've arrived home in New Mexico, are desperate for local food, but restaurants are closed.*

- (1) Make tortillas and I'll use them to make enchiladas.

**Intuition 1** Speaker 'endorses' imperative'

**Intuition 2** Speaker's committing to making enchiladas  
 conditional on addressee making tortillas

# Conjoined Imperatives and Declaratives

Standard Characterization in Literature

## Non-Endorsed Imperative and Declarative (n-IaD)

*Context: We've arrived home in New Mexico, are desperate for local food, but restaurants are closed.*

(2) Screw up the tortillas and I'll rub a chile in your eye.

**Intuition 1** Speaker 'does not endorse imperative'

**Intuition 2** Speaker is committed to conditional **if** addressee screws up tortillas, chile in eye

**Intuition 3** Addressee **doesn't want** chile in eye

- **Negative** n-IaD

# Conjoined Imperatives and Declaratives

Standard Characterization in Literature (Clark 1993; van der Auwera 1986)

## Non-Endorsed Imperative and Declarative (n-IaD)

*Context: We've arrived home in New Mexico, are desperate for local food, but restaurants are closed.*

(3) Make tortillas and you'll need flour.

**Intuition 1** Speaker 'does not endorse imperative'

**Intuition 2** Speaker is committed to conditional **if** addressee screws up tortillas, chile in eye

- **Neutral** n-IaD

# Conjoined Imperatives and Declaratives

'Divided' Theories

## 'Divided' Analysis (Kaufmann 2012)

- 1 e-IaDs: true conjunctions
    - Conditional reading from **modal subordination**
  - 2 Negative & Neutral n-IaD: *and* w/different syntax/semantics
    - This semantics neutralizes directive meaning
    - *LSand* (Culicover & Jackendoff 1997) or CC 'conditional conjunction' (Keshet 2013)
- Simplest theory consistent w/experimental results (Scontras & Gibson 2011)
  - Also possible to formulate in terms of discourse structure (Lascarides & Asher 2003; Txurruka 2003)

# Conjoined Imperatives and Declaratives

Problems for Modal Subordination Analysis (von Fintel & Iatridou 2017)

## Modal Subordination (Roberts 1989)

- (4) A wolf might walk in. It would eat you.  
 = A wolf might walk in and it would eat you.  
 = If a wolf walks in, it would eat you.

## von Fintel & Iatridou (2017): *And* Inconsistent w/MS

- (5) a. Invest in this company and you will become rich.  
 b. # You must invest in this company and you will become rich.

- If MS is involved in (5a), what blocks it in (5b)?

# Conjoined Imperatives and Declaratives

Problems for Modal Subordination Analysis (von Fintel & Iatridou 2017)

## von Fintel & Iatridou (2017): 'Polarity Switch' Problem

- (6)
- a. Don't park there! You'll be towed.
  - b. = If you park there, you'll be towed.
  - c. ≠ Don't park there and you'll be towed.

- (6a)/(6b) shows that MS allows 'polarity switch'
- But polarity switch not allowed in (6c)
- Ergo (6c) does not involve MS

# The Modest Proposal

## von Fintel & Iatridou (2017)

- ① Unified Analysis: all IaDs feature *LSand* or CC
    - Normal conjunction between imperatives and declaratives impossible!
  - ② Imperatives simply denote properties, and have no directive **meaning**
    - They don't even have a purely directive **pragmatics** contra Portner (2004, 2012)
- Can imperatives and declaratives be **re-conjoined**?

# Overview

This Presentation

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This Presentation

## Empirical Contributions

- ① Argue that modal subordination is crucially involved, contra von Fintel & Iatridou (2017)
  - Discourse relations matter (Asher & Lascarides 2003)
  - Data still problematic for imperatives = modals
- ② Offer diagnostic for IaD types
  - Using discourse connectives *so* and *but*
- ③ Support Divided Analysis (Kaufmann 2012: Ch.6)
  - Crystalize subdivisions using diagnostics

## Theoretical Contribution

- ① Use data to pose challenge for Unified *LSand*/CC analysis (von Fintel & Iatridou 2017)
- ② Show how to give a non-representational, non-modal Divided Analysis using dynamic preference semantics
- ③ Explore syntactic and discourse structure versions of Divided Analysis

## Polarity Switch Again

### General Feature of Anaphora

#### von Fintel & Iatridou (2017): 'Polarity Switch' Problem

- (6)
- a. Don't park there! You'll be towed.
  - b. = If you park there, you'll be towed.
  - c. ≠ Don't park there and you'll be towed.

#### Complement Anaphora (Nouwen 2003): Same Pattern

- (7)
- a. Few congressmen admire Kennedy. They think he's incompetent.
  - b. # Few congressmen admire Kennedy and they think he's incompetent.

## Polarity Switch Again

### General Feature of Anaphora

#### Complement Modal Anaphora: Same Pattern

- (8)
- a. Maria doesn't own a car. She would have to pay to park it.
  - b. # Maria doesn't own a car and she would have to pay to park it.

- Plausible explanation: *and* is compatible only with discourse relations that share nominal/modal topics (Txurruka 2003)
- Polarity Switch is compatible w/MS analysis that tracks **discourse relations** and **modal topics**

## Modal Subordination Again

### And Conjunction

#### von Fintel & Iatridou (2017): *And* Inconsistent w/MS

- (5)
- a. Invest in this company and you will become rich.
  - b. # You must invest in this company and you will become rich.

- von Fintel & Iatridou (2017): MS from deontic modal across *and* doesn't work
- This generalization is not quite right...
- Begin by looking deeper at (5)

## Modal Subordination Again

### And Conjunction

#### von Fintel & Iatridou (2017): *And* Inconsistent w/MS

- (5)
- a. Invest in this company and you will become rich.
  - b. # You must invest in this company and you will become rich.

#### Discourse Relations (Asher & Lascarides 2003)

- Relate eventualities of conjunctions
- Intuitive gloss of (5a): becoming rich presented as RESULT of investing
- But (5b) attempts to say becoming rich is RESULT of present necessity of investing

# Modal Subordination

With Deontic Conjuncts

- (9) You must contact your superior and she will explain your next mission.

## Discourse Relations

- In (9), 2nd conjunct is NARRATION of 1st
- Right now, you're required to contact superior
  - Next up: she'll explain your mission.
- Note: *she* and *will* have **anaphoric** interpretations

# The Puzzle

With Discourse Relations in Mind

von Fintel & Iatridou (2017): *And* Inconsistent w/MS

- (5) a. Invest in this company and you will become rich.  
 b. # You must invest in this company and you will become rich.

- NARRATION not plausible in (5b)
  - 2nd conjunct doesn't move 'script' forward; #*next*
- EXPLANATION compatible w/world knowledge, but not with *and* (Txurruka 2003)

## Take Home

Discourse relations + (imperatives ≠ modals)

⇒ modal/temporal anaphora approach viable

# Important Data

Introducing Declarative and Imperatives (Dals)

- (10) I love you and (please) don't (you) forget it
- DaIs occur in languages w/morphological imperatives
    - E.g. Cheyenne (11) from Murray (2016)
- (11) *Ná-to'se-néméne-∅ naa ho'sóe-o'o*  
 1-PROS-sing-DIR and dance-DEL.IMP  
 'I am going to sing and (you) dance!'

# New Data to Sharpen the Distinctions

Endorsed, Non-endorsed Type I and II

- (12) a. Make tortillas and I'll make chile sauce.  
 b.  $\left\{ \begin{array}{l} \#So \\ \#But \end{array} \right\}$  don't make tortillas.
- (13) a. Screw up the tortillas and I'll rub a chile in your eye.  
 b.  $\left\{ \begin{array}{l} So \\ \#But \end{array} \right\}$  don't screw up the tortillas.
- (14) a. Make tortillas and you'll need flour.  
 b.  $\left\{ \begin{array}{l} \#So \\ But \end{array} \right\}$  don't make tortillas, it'll make a mess.
- Also, *please* licensed in (12a); not in (13a)/(14a)

# Challenges for Unified Conditional Analyses

Of IaDs

## Unified Conditional Analyses

- 1 Unified *LSand*/CC analysis (von Stechow & Iatridou 2017)
  - Pragmatically derive endorsed readings
- 2 Unified DEF-CONSEQUENCE analysis (Lascarides & Asher 2003)
  - Pragmatically derive endorsed readings

- Hard to see DaIs being captured at all
- Why can't *but*  $\neg A$  cancel pragmatic derivation in e-IaDs like (12a)?
- *Please* data puzzling (Culicover & Jackendoff 1997; Kaufmann 2012: Ch.6)

### Type I $\neg A \wedge B$

Endorsed

#But  $\neg A$ , #So  $\neg A$   
*Please*

### Type II $\neg A \wedge B$

Not Endorsed

#But  $\neg A$ , So  $\neg A$   
#*Please*

Not Endorsed

But  $\neg A$ , #So  $\neg A$   
#*Please*

### Type I $\neg A \wedge B$

Endorsed

#But  $\neg A$ , #So  $\neg A$   
*Please*

### Type II $\neg A \wedge B$

Not Endorsed

#But  $\neg A$ , So  $\neg A$   
#*Please*

Not Endorsed

But  $\neg A$ , #So  $\neg A$   
#*Please*

Reversible

PARALLEL

RESULT,  
NARRATION

Negative

Open question!  
CC, *LSAnd*,  
DEF-CONSEQUENCE

Neutral

# Imperatives Order Alternatives

Dynamic Analysis (Starr 2010, 2016; Murray & Starr to-appear-b)

## Imperative Semantics (!A)

- Add preference for all A-worlds over non-A-worlds

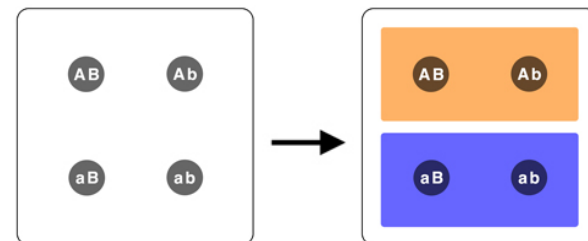


Figure:  $R$  updated with !A

$$\bullet r_0 = \{\{\{w_{AB}, w_{Ab}, w_{aB}, w_{ab}\}, \emptyset\}\} \\ \implies \{\{\{w_{AB}, w_{Ab}\}, \{w_{aB}, w_{ab}\}\}\}$$

# Declaratives Eliminate Worlds

Dynamic Analysis (Starr 2010, 2016; Murray & Starr to-appear-b)

## Declarative Effect ( $\triangleright A$ )

- Eliminate non-A-worlds

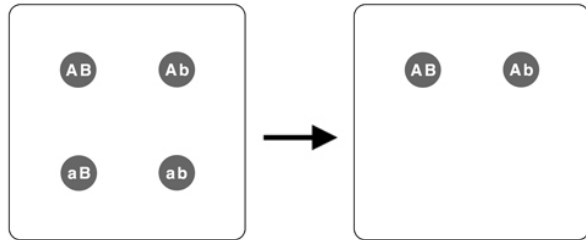


Figure:  $R$  updated with  $\triangleright A$

- $\{\{\{w_{AB}, w_{Ab}, w_{aB}, w_{ab}\}, \emptyset\}\} \implies \{\{\{w_{AB}, w_{Ab}\}, \emptyset\}\}$

# Imperatives

Are Non-representational

- Like many, I'm attracted to **intuitive** idea that imperatives are **non-representational** (e.g. Portner 2004; Charlow 2014; von Stechow & Iatridou 2017)

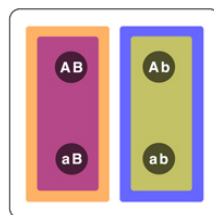
## Non-Representation Defined

Semantic value of  $\phi$  is non-representational just in case its primary discourse function is not to rule out ways the world could be.

- How does one explain infelicity of  $r[!B][! \neg B]$ ?
- Problems for Portner (2004) answer (Charlow 2014; Starr 2016: §2.2)

# Inconsistency

For Non-Representationalists



$r_0[!B][! \neg B]$

## Preferential Inconsistency (Starr 2016)

$\phi$  and  $\psi$  are preferentially inconsistent just in case there is no  $r$  such that  $r[\phi][\psi]$  is (practically) rational.

- Constraint on practical rationality: don't choose  $x$  if  $x$  is worse than something

# Conjunction

The Beauty and Limitations of Sequential Update

- (non-IaD) interactions btwn declaratives, imperatives and connectives favors **dynamic analysis** (Starr 2016)
- Conjunction:  $r[\phi \wedge \psi] = r[\phi][\psi]$ 
  - Feasible even when  $\phi$  and  $\psi$  have diff. static types
- Accounts beautifully for DaIs,  $r[\triangleright B \wedge !A] = r[\triangleright B][!A]$ 
  - And symmetric e-IaDs
- Explains *#but!* $\neg A$ /*#so!* $\neg A$  in e-IaDs
  - #but!*:  $\neg A$  pref. inconsistent w/ $!A \wedge \triangleright B$
  - #so!*:  $\neg A$  doesn't follow from  $!A \wedge \triangleright B$
- Yet!**: no account of anaphora btwn clauses or how discourse relations modulate it



# Imperatives

## Refined Account of Alternatives

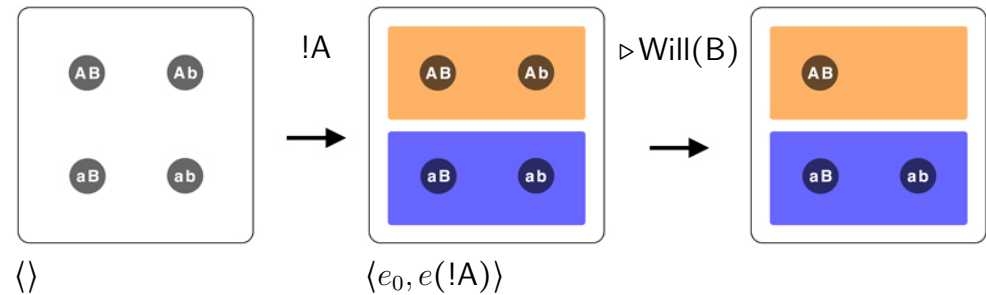
- Imperatives have richer content than sets of worlds
  - They say things about eventualities
  - (Hausser 1980; Portner 2004; Barker 2012)
- Discourse relations need access to imperative eventualities, not just worlds

### Alternatives and Eventualities

- A-alternative is set of  $\langle e, w \rangle$ :
  - $w(A) = 1$
  - $Addressee(x, c_r)$
  - $Agent(x, e, w)$
  - $Result(A, e)$

# Stacks to Model Anaphoric Dependence

## Simple Implementation Building on Kaufmann (2000)



- $r[\phi \wedge \psi] = r[\phi][DR_{\wedge}][\psi]$ 
  - $DR_{\wedge}$  discourse relation compatible w/ $\wedge$
  - Non-monotonically inferred (Asher & Lascarides 2003)
- Will(A) retrieves leftmost event, says A holds in future
- Update w/RESULT: replace leftmost w/next down

# Summary

## What's Done, What's Left

### Highlights

- Imperatives and Declaratives reconjoined
- Discourse relations, dynamic semantics essential

### Frontiers

- Settle between DEF-CONSEQUENCE, *LSand* and Conditional Conjunction analysis of Type II IaDs
- Integrate w/more general account of pragmatic force Murray & Starr (to-appear-a)

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